



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/444,460 11/22/99 FUJITA

H 1248-0472P-S

EXAMINER

MMC2/0703

BIRCH STEWART KOLASCH & BIRCH LLP
P O BOX 747
FALLS CHURCH VA 22040-0747

~~KNAUSS, S~~

ART UNIT

PAPER NUMBER

2874
DATE MAILED:

07/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/444,460

Applicant(s)

FUJITA ET AL.

Examiner

Scott A Knauss

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 33-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claims 19-32 and 37-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-18, and 33-36, drawn to an organic waveguide, classified in class 385, subclass 143.
 - II. Claims 19-32, and 37-40 drawn to a manufacturing method for an organic waveguide, classified in class 264.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another materially different process such as epitaxial growth or a diffusion process.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Robert Goozner on 6/15/01 a provisional election was made with traverse to prosecute the invention of an organic waveguide, claims 1-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-32 and 37-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

6. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1,7,9,11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,108,201 to Matsuura et al..

9. Matsuura discloses a polyimide waveguide with all the limitations set forth in the claims, including a core made of polyimide with a silicon oxide cladding layer (column 10, lines 37-40), using a fluorinated polyimide (column 6, lines 13-17), Matsuura also does not disclose using silane in the polyimide core.

11. Claims 1, 15,17, 33, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,406,406 to Yamamoto et al

12. Yamamoto discloses a waveguide in fig. 7 with all the limitations set forth in the claims, including a core made of an organic polymer (abstract) and a cladding having a smaller refractive index than that of the core that may be an inorganic material such as glass (column 5, lines 20-30). Yamamoto also discloses the use of an adhesive layer (#3) between the core and cladding sections (column 10, lines 2-4).

13. Regarding claims 17, 18, 35 and 36 applicant is claiming the product including the process of making an optical waveguide, and therefore are of "product-by-process" nature. The courts have been holding for quite some time that: the determination of the patentability of product-process claim is based on the product itself rather than on the process by which the product is made. In re Thrope, 777 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985); and patentability of a claim to a product does not rest merely on a difference in the method by which that product is made. Rather, it is the product itself which must be new and unobvious. Applicant has chosen to claim the invention in the product form. Thus, a prior art product which possesses the claimed product characteristics can anticipate or render obvious the claimed subject matter regardless of the manner in which it is fabricated. A rejection based on 35 U.S.C. section 102 or alternatively on 35 U.S.C. section 103 of the status is eminently fair and acceptable. In re Brown and Saffer, 173 USPQ 685 and 688; In re Pilkington, 162 USPQ 147.

As such, no weight is given to the process steps recited in claims 17, 18, 35 and 36. The claimed process of making limitations can be used to make the optical waveguide disclosed by Yamamoto.

Claim Rejections - 35 USC § 103

Art Unit: 2874

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 2,7,8,16, 18 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of U.S. Patent No. 5,485,540 to Eda.

17. Yamamoto discloses an optical waveguide with all the limitations as set forth in the claims as stated above, including an inorganic cladding layer, but does not specify the use of a silicon oxide layer formed by a sputtering, CVD or vapor deposition method.

18. Nevertheless, such methods are well known in the art. Eda teaches a similar optical waveguide in fig. 21 having a clad layer of silicon oxide formed using chemical vapor deposition.

19. Therefore it would have been obvious to one of ordinary skill in the art to modify the optical waveguide taught by Yamamoto to use the vapor deposition method taught by Eda to easily form a silicon oxide cladding layer.

20. Claims 3 and 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Eda as applied to claims 1 and 2 above, and further in view of U.S. Patent No. 5,940,568 to Losch.

21. Yamamoto, as modified, discloses all the limitations set forth in the claims as stated above, but fails to disclose a masking clad section for processing the core section.

22. Losch, on the other hand, discloses a planar waveguide that uses a cladding layer as a mask for the purpose of forming a grating in the waveguide (fig. 1, abstract).

23. Therefore it would have been obvious to one of ordinary skill in the art to further modify the optical waveguide taught by Yamamoto to use a masking clad layer for the purpose of forming a grating in the core of a waveguide.

24. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of Eda as applied to claims 1 and 2 above, and further in view of U.S. Patent No. 5,692,088 to Ishiharada.

25. Yamamoto, as modified, discloses an organic waveguide with all the limitations set forth in the claims, except for a light shield film formed around the core and cladding.

26. Ishiharada, on the other hand, discloses an optical waveguide having a cover layer surrounding the cladding for the purpose of shielding light (column 9, lines 6-31).

27. Therefore it would have been obvious to one of ordinary skill in the art to further modify the waveguide taught by Yamamoto to use the cover layer taught by Ishiharada for the purpose of shielding the optical waveguide from light.

28. Claims 9-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. in view of Eda as applied to claims 1 and 2 above, and further in view of U.S. Patent No. 5,572,619 to Maruo et al.

29. Yamamoto, as modified, discloses an optical waveguide with all the limitations set forth in the claims, but does not disclose a polyimide core.

30. Maruo, on the other hand, discloses an optical waveguide very similar to the waveguide taught by Yamamoto in figure 1, using a core layer of fluorinated polyimide (column 1, lines 53-67) for the purpose of providing a controllable refractive index and a core with excellent transparency. Maruo also does not disclose silane as a necessary component of polyimide.

31. Therefore it would have been obvious to one of ordinary skill in the art to replace the organic core taught by Yamamoto with the polyimide core taught by Maruo to provide a waveguide with a controllable refractive index core with excellent transparency.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,598,501 to Maruo discloses a polyimide optical waveguide.

Art Unit: 2874

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Knauss whose telephone number is (703) 305-5043. The examiner can normally be reached on 9-6 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308 - 4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Scott Knauss

Art Unit 2874

sak
June 28, 2001


HEMANG SANGHAVI
PRIMARY EXAMINER